International Journal of Medical Science and Clinical Research
www.journalofmedical.com
Online-ISSN: 2664-7761, Print ISSN: 2664-7753
Received: 12-08-2022, Accepted: 28-08-2022, Published: 14-09-2022
Volume 4, Issue 2, 2022, Page No. 36-43

The effect of leishmaniasis (kala-azar) on children in Baidoa, Southwest State of Somalia

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Abstract
Introduction: This retrospective study discusses the impact of kala-azar (leishmaniasis) on under-five children in Baidoa, Southwest State of Somalia (SWSS). It investigates how the kala-azar disease impacted on children under five years of age, particularly 21 patients selected among those who had visited two of the health facilities in the district of Baidoa that deal with the disease, namely Bay Regional Hospital and Baidoa District Hospital. The study aims to explore the effectiveness of the kala-azar treatment and patients' reflections after discharge from the hospital.
Methods: Mixed method was used in a survey questionnaire to collect data from patients' parents and guardians through the phone. Participants' quotations were used to present the qualitative aspect of the data while tables with frequencies and percentages were used to demonstrate the quantitative results.
Justification: The study was motivated by the prevalence of leishmaniasis or kala-azar among child patients visiting the hospitals in Baidoa district and the fact that a lot is being done to deal with the disease but without available scholarly studies.
Results: Of 21 participants surveyed in the study, a two-third majority expressed satisfaction with the effectiveness of the treatment while one-third did not believe the medication had any effect on the child patients.
Conclusion: Although most of the patients expressed effectiveness of the treatment, there is a lot of room for improvement since one-third of the child patients did not realize effective improvement after completion of the medication.

Keywords: children, health, kala-azar, leishmaniasis, spiritual healing, traditional medicine

Introduction

Leishmania donovani causes kala-azar (KA) or what is known as visceral leishmaniasis (VL) and is spread by phlebotomus argentipes (Kenya Ministry of Health, 2017) [10]. Estimates suggest that the incubation period of the disease ranges from 10 days to over 2 years, although there is likelihood this period may not extend beyond four months (Ministry of Health, Somali Federal Government 2012) [17].

Based on available data, leishmaniasis, particularly visceral leishmaniasis (VL), is a serious public health issue in countries in sub-Saharan Africa where most of the citizens are stricken with acute poverty. Hospitals and other public health facilities record thousands of cases visiting the centers while fatalities are estimated to be hundreds. The figures as well as the impact of the disease on the patients considerably elevate during epidemic years. For instance, in the years of 1980s and 1990s, VL epidemics in Sudan took the lives of about 100,000 people (Malaria Consortium 2010) [13].

In Somalia, phlebotomus martini is diagnostically identified as the most common vector, although P. vansomerenae has also been named as another probable vector (Sunyoto *et al* 2017; Marlet *et al*. 2003) [21, 14]. The only reservoir is thought to be man, and transmission is interpreted as being anthroponotic (Singh *et al*. 2013) [19]. While unconfirmed anecdotal suggests the disease has been suspected around 1935, "VL was first formally documented in 1943, with the first outbreak occurring in Daarbuluk, Hargeisa, in 1952" (Ministry of Health - Somali Fedral Government, 2012) [17]. In 1965, according to the report by the Somali Federal Government, "an endemic focus was identified in the Middle Shebelle region, with 12 cases confirmed, the bulk of which occurred in juvenile age groups and began in the province capital Jowhar."

The global humanitarian medical relief organization Médecins Sans Frontières (MSF-Belgian) reported more VL infections in the Lower Juba region in 1995, while a case was discovered in Baidoa, Bay Region, in the same year, as was affirmed by the Malaria Consortium (2010) [13]. However, a fatal outbreak was reported around the

Kenyan, Ethiopian, and Somaliland borders in 2001, with the majority of infections affecting ethnic Somalis from nomadic groups grazing livestock along the border areas of these countries (Malaria Consortium 2010) [13]. Additionally, cases were identified and reported in Lower Juba, Bakool, and Gedo regions, while VL in Gedo in 1998 was suspected to have been spread by IDPs from Bakool Region (MSF 2016) [15]. In Bakool, roughly an estimated 140 cases were identified between 2002 and 2004 while a very significant increase of the epidemic was reported in 2006 and lasted till 2008, affecting 1,002 patients (Ibid). Approximately 80 percent of these patients hailed from the two districts of Huddur and Tiyeglow, both in Bakool Region (MSF 2016) [15].

Literature Review

According to the World Health Organization (WHO 2022) [23], "Leishmaniasis is caused by protozoan parasites which are transmitted by the bite of infected female phlebotomine sandflies." It is a disease with a wide geographic distribution in Africa and around continents in the world (Kenya Ministry of Health, 2017; WHO 2022) [10, 23]. Leishmaniasis parasite can live for decades and is only found in tropical and temperate regions, environments where the sandfly lives. It is thought to be endemic in 88 nations (16 developed and 72 developing) across four continents while "Afghanistan, Algeria, Brazil, Iran, Peru, Saudi Arabia, and Syria account for 90% of cutaneous leishmaniasis cases, whereas Bangladesh, Brazil, India, Nepal, Somalia, and Sudan account for 90% of visceral leishmaniasis cases," (World Health Organization Report on Global Health 2000) [22].

Of the common species of cutaneous leishmaniasis, diffuse cutaneous leishmaniasis, mucocutaneous leishmaniasis, and visceral leishmaniasis, it is diagnosed that the type found in Somalia is visceral leishmaniasis (Sunyoto *et al*. 2017) [21]. According to WHO (2000, p. 121) [22], "Visceral leishmaniasis, also known as 'kala azar', is characterized by irregular fever, weight loss, swelling of the liver and spleen and anemia. It is the most severe form of Leishmaniasis, and is usually fatal if left untreated." Dhariwal *et al*., (2015) [4] claim that if the illness is not addressed in a timely moment, it has a potential to cause devastation of lives in high death rates, particularly in impoverished countries and can rise to 100% within a period of 24 months or so. Scholars affirm that the protozoan leishmania parasite causes visceral leishmaniasis (kala-azar), which is spread through the bite of female phlebotomus sandflies (www.who.int/health-topics/; Guerin *et al*. 2002; WHO 2022) [9, 23].

The World Health Organization estimates that 500,000 new cases of kala-azar are diagnosed each year, causing over 50,000 deaths; while over 90% of these cases are reported from six countries: Bangladesh, Brazil, Ethiopia, India, Nepal, and Sudan. In Africa, visceral leishmaniasis (VL) is endemic in five countries: Ethiopia, Kenya, Somalia, Uganda, and Sudan. Kala-azar is a disease that primarily affects impoverished and neglected people living in rural areas. More than 95 percent of kala-azar patients risk to die if treatment is not sought promptly (Kolaczinski *et al*. 2008) [11].

The burden is concentrated in focal areas in the east and south-east of Sudan, making Eastern Africa one of the world's largest kala-azar endemic locations (Al-Salem *et al*. 2016) [1]. In the Somali context, experts suggest that kala-azar is caused by the sub-species known as leishmania donovani (Sunyoto *et al*. 2017) [21]. Most cases in Somalia are reported in Bay and Bakool regions. Cases are suspected to occur in other regions as well, but are never identified due to security concerns in such areas (MSF, KA manual, January 2016) [15]. Following an outbreak in 2000-2001, MSF has provided KA treatment in Huddur, Bakool region, to over a 1000 patients a year.

During these periods when children mostly suffered from the heavy burden of the endemic, it was only MSF that provided needed care in Bakool till 2006, although other NGOs joined the intervention later. The efforts and achievements made over the years were hampered by considerable insecurity in southern Somalia, which forced MSF and other NGOs to suspend their activities of addressing the KA endemic in 2009. Notwithstanding the multi-spheric challenges, MSF returned to resume its operations in Bay region with considerable assistance to the health sector, providing medical services in Baidoa district that include the establishment of a pediatric department in which kala-azar patients are diagnosed and treated, a maternity ward that contributed a lot to maternal and infant healthcare, and provision of ANC and PNC services at Bay Regional Hospital, the only referral health facility in the Bay region (Yarow *et al*. 2021) [24].

Research Method

Research Design

The study is embedded by the guidelines of the case study approach, using a triangulation of qualitative and quantitative methods of research (Eno and Dammak 2014; Flyvbjerg 2006; Gerring 2007) [5, 7, 8]. The aim for the mixed methods approach was to strengthen the data on account of validity and reliability (Farah *et al*. 2021; Kothari 2007; Best and Kahn 2004) [6, 12, 2]. Because the study was the first and the retrospective segment of a three-phase case study, it focused on discharged patients by accessing existing archival records in the two-target health facilities namely Bay Regional Hospital and Baidoa District Hospital. After a few days of desk observation of the records, parents and guardians of 21 patients were selected and contacted through phone calls. Subsequently, introductory calls were made to inform the participants of the nature and purpose of the study. They were made aware of their participation as a voluntary exercise and that they could decline to respond to any question or quit the survey at any point if they desired to do so. Their consent was sought and obtained before the start of the interview. Structured questionnaires were filled in with participants' responses using the cell telephone. Data were fed into a computer for storage, safety and analysis. Results are presented in tables

demonstrating frequencies and their corresponding percentages. Specific open-ended questions were used to permit the participants to express themselves so as to share the human feeling toward the condition of the child and the effectiveness of the treatment.

Ethical Consideration

The study followed ethical considerations endorsed by the Ethical Committee of the University Of Southern Somalia, Hakaba Institute for Research and Training, and administrative leaderships of Bay Regional Hospital and Baidoa District Hospital—all in the Southwest State of Somalia.

Results and Discussion

Table 1: Respondents by relationship to the patient

Relationship	Frequency	Percent	Valid Percent	Cumulative Percent
Father	7	33.3	33.3	33.3
Mother	14	66.7	66.7	100.0
Guardian	0	0		
Total	21	100	100	100

Table 1 shows the relationship between patients and their caretakers. The frequency of those accompanied by the father is 7, meaning 33% or a third of the total number of 21 respondents covered in this study. Patients under the care of their mothers consist of 14, which is equal to 66.7% of the respondents and twice the number of male caretakers. Data indicate that among the discharged patients, mothers outscored fathers in accompanying the child patients of kala-azar and caring for them in hospital as discussed in this phase of the study. Secondly, the choice "guardian", intended for non-parent relatives such as uncle, aunt, cousin, or any other distant relatives of the family, had returned not even a single response—thus the mother bringing all that was pertinent to "her sensitivity, attitude to the child, emotional acceptance, [and] consistent responsiveness" (Burmenskaya 2009) [3].

Table 2: Patient's area of residence

Category	Frequency	Percent	Valid Percent	Cumulative Percent
IDP	9	42.9	42.9	42.9
Rural Community	12	57.1	57.1	100.0
Baidoa Residents	0	0	0	
Total	21	100.0	100.0	

Table 2 provides a representation of the residency of the kala-azar patients in this study. The number of kala-azar patients living in the IDP camps is 9 which constitutes almost 43% of the total number of study sample, while those whose residency is in the rural area are comprised of 12 which is equivalent to about 57% when the number is rounded down. The study supports the general societal as well as medical viewpoint of kala-azar affecting rural communities more than their counterpart urban dwellers. The indication of the data in this table confirms what here in Baidoa was anecdotal that indeed the vectors of kala-azar diseases occur more frequently in rural areas than in either the IDP camps or in Baidoa city. The results support earlier findings by Sunyoto *et al*. (2018) [20] that visceral leishmaniasis (VL) hits hard rural, impoverished and under-served communities.

Table 3: Time between suspecting the illness and visiting the hospital

Category	Frequency	Percent	Valid Percent	Cumulative Percent
1-2 months	8	38.1	38.1	38.1
3-4 Months	8	38.1	38.1	76.2
5-6 Months	5	23.8	23.8	100.0
Total	21	100.0	100.0	

As regards the immediacy of seeking medical treatment, the caretakers were asked about the duration it has taken them from the time they noticed the child's illness to the time when they visited a medical facility. Table 3 discusses reveals that parents who sought medical assistance within a period of 1-2 months is 8, which is 38.1%; within 3-4 months is also 8 and 38.1%, similar to parents who took their sick children to a health facility between 1-2 months, both of which are unlike the last category of between 5-6 months which is 5 and equivalent to 23.8%. Some parents seem reluctant about visiting a health facility immediately after they notice the child's illness. The fact that a majority of almost 62% do not rush the sick child to the hospital reveals a major health gap, contributing most seemingly to the deterioration of the child's health and complications that may cost the patient his/her life.

Table 4: Type of treatment tried before taking the child to the hospital

Type	Frequency	Percent	Valid Percent	Cumulative Percent
Traditional Herbal Medicine	10	47.6	47.6	47.6
Religious/Qur'anic Healing	10	47.6	47.6	95.2
Other	1	4.8	4.8	100.0
Total	21	100.0	100.0	

Table 4 shows the kind of treatment parents have considered or tried before bringing the child to the hospital. Parents give an overwhelming admission to trying traditional/herbal medicine with a response of 47.6%, equivalent to those who applied religious/Quranic method of healing which returned an exact response of 47.6%. Those who sought a different approach in the "other" category number only one response and equal to 4.8%. It is revealing here that traditional/herbal medicine and Holy Qur'an are the most frequent type's or rather prioritized method of treatment the parents have tried before seeking modern medical treatment in the hospital. From another angle, although religious healing serves in many cases and in many ways, as Muslims believe, the delay can also be attributed to lack of awareness among rural and even some urban dwellers that Qur'an or religious healing does not run counter to modern medicine. A comparative analysis of data in Table 4 with the results furnished in Table 3 gives us the assumption that the delay mentioned in the preceding Table 3 occurs as a consequence of the prolonged period of parents' engaging in either traditional/herbal medicine and/or approach to spiritual/Qur'anic healing prior to visiting the hospital which, in this case, seems to be the last resort.

Table 5: Person behind the visit to the health facility

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Husband	8	38.1	38.1	38.1
Wife	3	14.3	14.3	52.4
Brother	2	9.5	9.5	61.9
Sister	1	4.8	4.8	66.7
Relative	7	33.3	33.3	100.0
Total	21	100.0	100.0	

This table, Table 5, illustrates the results of the question about the person who encouraged or rather influenced the parent to take the patient to a hospital. Accordingly, respondents persuaded by husbands are 8 in number and the equivalence of 38.1%; while 3 wives at 14.3% played a significant role in advising the caretaker to admit the child to a hospital, while the choice of brother returned 2 responses or 9.5%, and other types of relative, denoting a distant relative or a friend stands at 7 and therefore 33.3% of the respondents whose views were sought in this phase of the study. It is quite interesting to note parents' admission that a third, 33.3%, of advisers who are not close family members but distant relatives, have persuaded or encouraged them about seeking medical treatment in a health facility gives evidence to the fact that there exists some form of awareness among the rural and impoverished and underserved communities about the necessity of seeking medical assistance. The notion of such awareness challenges the presumption that rural people do not trust modern medical system or that they address illnesses *only* by either traditional or religious practice.

Table 6: Effectiveness of medication

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	16	76.2	76.2	76.2
No	5	23.8	23.8	100.0
Total	21	100.0	100.0	

Table 6 exhibits the results of the important question surrounding the effectiveness of the medication given to the kala-azar patients. While 16 respondents (76.2%) replied under the choice "YES" meaning medication was effective; the remaining 5 respondents and equivalent to 23.8% responded with "NO", providing a clear message that the medication, as far as their patients were concerned, was not effective. Despite 23.8% being a high number, that majority of the patients, 76% were satisfied with the medical treatment provided to the patients gives the reflection that the only two hospitals treating kala-azar in Bay Region, namely Bay Regional Hospital and SOS health facility, are on a good course as far as kala-azar treatment is concerned. However, in order to access respondents' opinions beyond the closed-ended questions, the question was designed with an open-ended section for personal comment, as demonstrated below and verbatim in the respondent's words translated into English.

Respondents' supplementary comments to question 6 in Table 6 above

Respondent (1) my child took thirty injections; after that long treatment for kala-azar, my child is doing well Now, and he is feeling very healthy.

Respondent (2) the child took all kala-azar treatment and was discharged as cured; but he is still suffering from

Slight fever which is random and he has poor appetite.
Respondent (3) my child is doing well; he recovered and now he is doing his daily activities without any problem.
Respondent (4) the kid has no problem so far. His medical treatment improved his health and he is doing well.
Respondent (5) Yes, medication was effective! He recovered and now he is doing well.
Respondent (6) my child took ten injections after that they told me that there was a sudden kala-azar treatment Gap. They said go home now and come back after 15 days. Then I brought the child back home. After five days of no treatment, he developed nose bleeding, his health deteriorated and he eventually died.
Respondent (7) the medication has ended and he is still sick; maybe it's not effective.
Respondent (8) Yes, it's effective because before medication my child was very weak and ill and now he is getting well and playing with the other kids. He eats well; so, his medication was good, very good!
Respondent (9) He is still sick although he has completed his medication. Maybe I'll take him to the doctor again.
Respondent (10) the kid recovered after treatment; that is why I think the treatment was effective.
Respondent (11) I believe that the treatment was effective because my child is well; she is doing well compared To the previous days, before I took him to the hospital.
Respondent (12) my child recovered and was discharged as cured after thirty days of treatment.
Respondent (13) He was tested positive with kala-azar then he started with treatment of thirty days at SOS health Center; now he has recovered and he is doing very well.
Respondent (14) after treatment, the child became normal after treatment. The medication was very effective!
Respondent (15) He recovered well and was cured and discharged. That is why I believe the medicines were Very effective. The doctors and the nurses were very helpful too; that is why the child's health improved.
Respondent (16) in the first three days after my child started taking the medicine for kala-azar…the child's Condition became stable. She was discharged after she completed all the medicines and the doctors said she was safe and the illness was treated. She did not develop kala-azar illness after that.
Respondent (17) within the first 4 days after my child stared taking her medication, she suddenly became Healthy; it was effective because all symptoms of the disease were gone, disappeared. Later on she was discharged as cured.
Respondent (18) the medication was very effective because my child was very sick before that, and now he is much cured after thirty days of kala-azar treatment.
Respondent (19) the treatment was effective, of course, because he recovered and was discharged. It was before five months that he was discharged.
Respondent (20) the first few days after my child took the medicine, he felt well and started feeding and was discharged after completion of his treatment.
Respondent (21) in the first three days when the medicine was given, my child's health deteriorated and after a short time he died.

Impact of kala-azar on the child's education?
Respondent (1): First three months he was not able to go to school for his education, but now he is fine.
Respondent (2): The child become poor in studying because a sick child cannot learn anything; he is still sick.
Respondent (3): My child was sick at least a month after discharge; so he couldn't attend to learning immediately.
Respondent (4): My child did not attend his school at least five months after discharge. Now he is studying.
Respondent (5): The child does not attend school. He was sick at least for five months but he is improving now.
Respondent (6): The child died already after treatment and discharge; may be the medication was not effective at all.
Respondent (7): There is significant impact on the child's education. He can't go to school because he is still very weak or not recovered well.
Respondent (8): The diseases impacted the child's education because he became very poor in terms of learning although he was very active in education before.
Respondent (9): The child is not able to attend to her education because she is still sick.
Respondent (10): Of course kala-azar had impact on the child's education during his sickness, but now he can go to school and he is studying well.
Respondent (11): During the last five months he has not attended any education class like *dugsi* Qur'an (Quraan School) where he was learning; but now he is trying and he is learning very well.
Respondent (12): There was not any education he had started before his illness or even now because he is still too young to join *dugsi* Quraan (Qur'an school).
Respondent (13) there is no impact on child's education; he is continuing his education s usual; like other children.
Respondent (14) before, during his sickness, he was not able to learn but now he is attending school.
Respondent (15) the child couldn't study well during treatment period but now he is studying. His education is good; his learning is like normal children.
Respondent (16) my child's education is very well. I think the medicine had good impact.
Respondent (17) my child is sometimes good and sometimes he has difficulty memorizing since he got sick.

Respondent (18) when he was sick he couldn't go for his education, but now he is doing better in his education.
Respondent (19) last three months my child did not attend for any learning due to weakness. But nowadays the child is active and goes for studying the Holly Qur'an.
Respondent (20) He has not any problem with his education as a result of the kala-Azar. He is learning well like his peers in the area.
Respondent (21) the child is no more. Kala-azar, the sickness, has taken his life.

Impact of kala-azar on the child's social life
Respondent (1) I don't think there is any impact because now he is herding the cattle; he is very active to do his Day-to-day activities.
Respondent (2) Still he is not playing with other children; he withdraws from the society. Maybe he'll be OK later.
Respondent (3) there is impact of kala-azar on the child's social life, I think; because, as I think now, the child became communally isolated. He likes to be alone!
Respondent (4) my child became socially isolated; he cannot interact with other family members.
Respondent (5) He was not playing with the children when he was sick, but now he is fine…plays a lot.
Respondent (6) the child passed away because of kala-azar.
Respondent (7) previously, the child was an active member of the family but now he is very poor in terms of social interaction and relationship. I think that after the sickness he lost his self-esteem. The cheerfulness he had before the disease is not there anymore. Some children are like after long illness. Maybe he will be OK.
Respondent (8) Yes, when a child becomes kala-azar patient he feels unwell. He feels weak and unhappy because of the bad sickness of kala-Azar. But recovery comes at slow pace, you know. The child is well in social activity. He plays and runs; he is active.
Respondent (9) if the child feels sick, I mean if she still feels sick after medication, it means that the sickness is impacting on her social life. And some children are like that. But after some time, they become very active.
Respondent (10) there is no impact on social life because when he recovered he started his daily activities.
Respondent (11) the impact of kala-azar is very dangerous because my child's social life is not good throughout; he is not active; he can't eat well and he became socially isolated.
Respondent (12) Yes: because, the child cries throughout; I think it's due to the impact of kala-azar.
Respondent (13) I have not seen any social life problems after treatment. This child does everything as usual!
Respondent (14) the child is very active in social life and interacts with family members as normal as before.
Respondent (15) she feels low self-esteem, her mother and I think. She doesn't interact well with the family members.
Respondent (16) my child has not any problems in social life. I don't believe there is negative kala-azar impact.
Respondent (17) my child is doing well. He was treated well. I believe that the doctors have done a good job.
Respondent (18) Up to now we have not seen any negative social impact on the child or any problem with him.
Respondent (19) the impact of kala-azar on the child's social life is that the child doesn't interact, he looks still weak. He wants to play with the other children but he feels weak after a short time of playing.
Respondent (20) No, my child has no social difficulty that affects him as a result of this disease. He interacts well with family members and children in the neighborhood.
Respondent (21): The child succumbed to the kala-azar disease.

Impact of kala-azar on the child's growth and development
Respondent (1) No, I have not seen any growth and development interference.
Respondent (2) Child's growth; really the child became stunted and malnourished.
Respondent (3) the impacts of kala-azar on the child's growth is that the child's weight is less for his age and child's development is not good.
Respondent (4) Kala-azar disturbed the child a lot. About the child's growth and development; yes, the child is thin and he has low weight. May be that is the cause of the disease.
Respondent (5) Impact of kala-azar on the child's growth and development is that my child became malnourished and his physical and mental growth is low.
Respondent (6) this kala-azar disease is a very bad disease because it has killed the child. I think it killed many children.
Respondent (7) still she can't feed well; that is why she is not growing well physically and mentally.
Respondent (8) when the patient suffering from kala-azar, such a patient cannot feed well, always feels weak, physically and mentally low-growth and development until he/she gets well after treatment.
Respondent (9) He looks malnourished because of this disease; there is no development, no good growth!
Respondent (10) there is delay in growth and development after treatment; that is my thinking.
Respondent (11) from the day he got the treatment up to today he is looks good and much better. He is growing physically and mentally very well.
Respondent (12) He became stunted in physical growth but he is recovering since he was discharged as cured.
Respondent (13) after treatment, he is good in growth and development.
Respondent (14) the growth and develop of the child is well developed.
Respondent (15) the child will not grow well may be because of the disease.

Respondent (16) my child's growth and development is very good and he has no problem, his is healthy.
Respondent (17) She has no any development delays, she is growing well.
Respondent (18) during his sickness he was very weak and malnourished but now he recovered.
Respondent (19) the child's growth and development is slow because of poor feeding up to now.
Respondent (20) my child's growth and development has delayed, as I think, because of the disease.
Respondent (21) my child's health deteriorated after kala-azar treatment started, patient developed nose bleeding until he died.

On encouraging other community members to take kala-azar patients to hospital

This question returned an overwhelming majority of over 95% responding positively on whether they would encourage fellow community members to take kala-azar patients to a medical facility. Interestingly, although those who expressed effectiveness of the medication were 76% as indicated in Table 6 above, it seems here that some of the parents who thought the treatment was less effective than they had anticipated or desire, have the perception of encouraging others to visit health facilities. The only two respondents (9.5%) with the negative answer could be the bereaved parents of the WO children that succumbed to the disease and lost their lives. Therefore, the response gives the impression that many of the rural communities are realizing the advantage of seeking medical assistance in the health facilities upon noticing the symptoms of kala-azar.

Conclusion and Recommendations

Using a retrospective approach, this study revealed how 76% of parents interviewed confirmed the effectiveness of the medication their children have taken to treat leishmaniasis or kala-azar disease. The study provided evidence of how the patients seek traditional and spiritual healing at the early stages of the ailment and that they visit the hospital as the last resort after other treatment options have been exhausted. The delay in this process of trying several avenues of treatment during the early stage of the illness may delay or complicate the healing process after the start of medication in the hospital. Majority of parents stated children's return to education and other aspects of socialization as normal after the treatment and upon returning to the community, although some expressed concern in child development and growth, physically and mentally. In spite of the findings, there is room for creating further awareness on the benefits of seeking timely medical assistance. During the awareness drive, authorities and involved community-based organizations and other stakeholders need to educate rural communities on the symptoms of kala-azar in order to help them be aware of the disease. Rural communities as well as IDPs need to be educated on the necessary steps to take upon noticing the symptoms of leishmaniasis. More importantly, communal cohesiveness needs to be enhanced in order to encourage reluctant parents to seek prompt medical intervention for the ailing children.

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